

**Abstract**

The sequential production of a library of  $N$  different solids, in particular heterogeneous catalysts, where  $N$  within a day is an integer of at least 2, is performed by

- a) producing at least two different sprayable solutions, emulsions and/or dispersions of elements and/or element compounds of the chemical elements present in the catalyst and optionally of dispersions of inorganic support materials,
- b) continuously metering the at least two different solutions, emulsions and/or dispersions in a predefined ratio into a mixing apparatus in which the solutions, emulsions and/or dispersions are homogeneously mixed,
- c) continuously drying the mixture removed from the mixing apparatus and recovering the dried mixture,
- d) changing the ratios in step b) and repeating steps b), c) and d)  $(N-1)$  times until  $N$  different dried mixtures are obtained,
- e) optionally shaping and optionally calcining the mixtures to give the solids.